

DAVIS MINE RECLAMATION AND MUSSELSHELL RIVER RESTORATION
PROJECT

FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION



FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

Please fill in the highlighted areas

all sections (IA, IB, IC, etc.) must be addressed or the application will be considered invalid

I. APPLICANT INFORMATION

- A. Applicant Name: Musselshell County
- B. Mailing Address: 506 Main Street
- C. City: Roundup State: MT Zip: 59702
- Telephone: 406-323-1104 E-mail: goffenar@midrivers.com
- D. Contact Person: Bob Goffena
- Address if different from Applicant:
- City: State: Zip:
- Telephone: 406-323-1104 E-mail: goffenar@midrivers.com
- E. Landowner and/or Lessee Name (if other than Applicant):
- Mailing Address:
- City: State: Zip:
- Telephone: E-mail:

II. PROJECT INFORMATION*

- A. Project Name: Davis Mine Reclamation and Musselshell River Restoration
- River, stream, or lake: Musselshell River
- Location: Township: 8N Range: 25E Section: 24
- Latitude: 46.438773° Longitude: -108.546165° *within project (decimal degrees)*
- County: Musselshell
- B. Purpose of Project:
- The project will include abandoned mine reclamation, restoration of the Musselshell River floodplain to more natural conditions and consequently significantly improve the fishery in Roundup, Montana for native prairie fish. Stream restoration will enhance stream flow in the area and improve riparian habitat.
- C. Brief Project Description:

The goals of this project are: flood mitigation through river restoration, improving the fishery, recreational access to the area, and mine reclamation. The excavation and removal of waste coal and the restoration of the floodplain to natural conditions will return the river to a more natural flow pattern in this area. Following completion of the site assessment and waste coal removal, the site restoration will include opportunities for habitat improvement for fish populations and future development of a community pond.

D. Length of stream or size of lake that will be treated: ~.5 stream miles

E. Project Budget:

Grant Request (Dollars): \$ 69,500

Contribution by Applicant (Dollars): \$ In-kind \$
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 131,167 In-kind \$
(attach verification - See page 2 budget template)

Total Project Cost: \$ 199,667

Attach itemized (line item) budget – The budget for this portion of the project is attached. It should be noted that this grant application is part of a multi-agency effort at the Meathouse Road Site.

This effort includes approved funding from:

- F.
- DEQ AML (\$141,067 for this portion of the project and a total of \$1.45 million [includes contributions to the DNRC Construction Grant]),
 - FEMA (\$999,654),
 - DNRC (\$35,221), and
 - EPA Brownfields (\$60,000) and additional potential funding from a DNRC Planning Grant (\$500,000).
 - Additional grant funding for a Community Pond Project will be requested later.

G. Project plans are attached. The property will be purchased through the County's FEMA grant. As the applicant, Musselshell County attests to public support of this project. In addition, support letters are provided from the Musselshell Watershed Coalition and its partners, Montana FWP Fisheries Biologist Michael Ruggles, and DEQ.

H. DEQ will monitor the site for the first five years will be completed by DEQ. Long-term monitoring and maintenance of the site will be completed by Musselshell County. Monitoring by DEQ will include turbidity, vegetation, weed spraying, and streambank stability. Any maintenance needed during the first 5 years will be addressed by DEQ. Long-term monitoring and maintenance by the County will include weed spraying and maintenance of structures associated with public access to the river.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

While the Musselshell River warm water zone is home to up to 31 species of fish, many of them are not found at Roundup. The species found at Roundup include wild channel catfish, smallmouth bass, sauger, and native minnows.

B. How will the project protect or enhance wild fish habitat?:

The initial phase of the project will include the removal of waste coal and structures from the site. Following completion of the initial phases, the berm bounding the site will be removed and the floodplain adjacent to the river will be expanded and the riparian developed to improve river connectivity and wild fish habitat. Allowing the river to access its floodplain will restore the site to natural conditions and will provide additional fish habitat in this reach of the Musselshell River. FWP analysis of the river near Roundup indicates that moderate fish habitat exists. Design of the stream restoration, in coordination with FWP, in this area will incorporate features that will enhance fish habitat in this reach.

C. Will the project improve fish populations and/or fishing? To what extent?:

Yes. This project will enhance fish habitat along a stretch of the Musselshell River that was modified by coal mining activity. Mining activities disrupted the flow of the river in this area, returning it to more natural conditions will directly impact habitat in this area. This will be particularly valuable in improving forage fish populations (e.g. native minnow assemblage) which in turn would assist in supporting population expansions of bass, catfish and sauger. Additional methods to improve the various fish populations could be fish transfer from other sections of the river or stocking.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

The property is currently privately owned. This project includes multiple phases, the first is the purchase of the property by the County through FEMA grants. Once purchase is complete site restoration will begin, initially with the removal of the on-site structures, followed by the removal of the berm and waste coal. The site will then be returned to natural floodplain conditions including vegetation, wetlands, and ponds. Upon completion, there will be public access to the riparian area and the river at this location including connection to City-owned nature trails on the adjoining property. The site will include approximately 70 acres of public access.

E. The project agreement includes a 20-year maintenance commitment. Please discuss your ability to meet this commitment.

The County is committed to meeting the 20-year maintenance requirement. The County has the equipment and personnel to maintain the site. In addition, DEQ AML funding requires that the site be inspected and maintained for a period of 5 years following completion of construction. This additional assistance will ease the burden on the County.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The project area was modified in the early 20th Century during the development of the railroad and coal mines. While the bulk of the mine workings were on the south side of the Musselshell River, a mine entry and coal processing was located on the floodplain north of the river. The mine entry and other structures were protected from flooding through the construction of a berm around the facility. The berm is 10 to 15 ft high and 20 ft wide and has had material added to it since its initial construction. The berm cut the river off from its flood plain resulting in significant flooding in Roundup, particularly in 2011 and 2014. The proposed project will return the floodplain to more natural conditions and will include the development of fish habitat and riparian wetlands in this reach of the river.

G. What public benefits will be realized from this project?:

There will be multiple benefits from the completion of the project: 1) The impacts from flooding will be reduced significantly by allowing the river to reach its floodplain. Development of the mine and railroad in the area resulted in the loss of 35 miles of length in the Musselshell River. This project and a second at the Jeffries No.18 mine about 1.25 miles downstream will allow the river to access its floodplain in this reach. This will reduce the impact of flooding in this reach and its impact on the City; 2) Currently the site is privately owned. This project includes the purchase of the property through FEMA funding. Once the reclamation is complete, there will be public access to the site and to the river; 3) Construction of future fisheries and a community pond will provide habitat and opportunities for fishing for locals and visiting fishermen; 4) property values in the area will increase with improved access to the river and reduced potential for flooding; 5) during construction the local economy will see an increase in sales and employment.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. The property will be owned by the County. The adjacent property to the east is owned by the City of Roundup and is used as part of a nature trail system. There is an easement on the northern boundary of the site owned by Conoco-Phillips (along the former railroad grade). This easement will not be disturbed by the site activities. There is an irrigation pump for the public golf course located on the northwestern portion of the site. Arrangements will be made to move the pump if necessary to another nearby location. This has been discussed with the County. In addition, there are two water rights on the property that will run with the property (40C 30021705 (2006) and 40C30023612 (1920)).

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No. The property will be owned by the county and will not be developed for as a commercial enterprise.

J. Is this project associated with the reclamation of past mining activity?:

Yes. From the early 1920s until the early 1950s coal mining was completed on the south side of the river at multiple locations. The site processed coal for the railroad and domestic use. As such, a component of the funding for the site will come from Office of Surface Mine Reclamation and Enforcement Abandoned Mine Lands.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:



Date:

5-29-18

Sponsor (if applicable):

Attachment Budget

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES**	IN-KIND CASH	TOTAL
Personnel***								
Survey	40	hrs	\$107.00	\$ 4,280.00			4,280.00	\$ 4,280.00
Design	40	hrs	\$123.00	\$ 4,920.00			4,920.00	\$ 4,920.00
Engineering	40	hrs	\$90.00	\$ 3,600.00			3,600.00	\$ 3,600.00
Permitting	25	hrs	\$85.00	\$ 2,125.00			2,125.00	\$ 2,125.00
Oversight	100	hrs	\$85.00	\$ 8,500.00			8,500.00	\$ 8,500.00
				\$ -				\$ -
			Sub-Total	\$ 23,425.00	\$ -	\$ -	\$ 23,425.00	\$ 23,425.00
Travel								
Mileage	3000	mi	\$0.55	\$ 1,635.00			1,635.00	\$ 1,635.00
Per diem	15	meals/lodging	\$118.00	\$ 1,770.00			1,770.00	\$ 1,770.00
			Sub-Total	\$ 3,405.00	\$ -	\$ -	\$ 3,405.00	\$ 3,405.00
Construction Materials****								
Straw Wattles	900	lf	\$6.00	\$ 5,400.00	5,400.00			\$ 5,400.00
Filter Fence	700	lf	\$6.00	\$ 4,200.00	4,200.00			\$ 4,200.00
Fabric Encapsulated Soil Lift	675	lf	\$30.00	\$ 20,250.00			20,250.00	\$ 20,250.00
Class 1 Riprap	375	cy	\$65.00	\$ 24,375.00			24,375.00	\$ 24,375.00
4-foot Willow Whips	2025	ea	\$2.00	\$ 4,050.00	4,050.00			\$ 4,050.00
3-foot Willow Stakes	675	ea	\$4.00	\$ 2,700.00	2,700.00			\$ 2,700.00
Upland Shrubs	200	ea	\$10.00	\$ 2,000.00	2,000.00			\$ 2,000.00
6-inch Growth Media	2	ac	\$2,600.00	\$ 5,200.00	5,200.00			\$ 5,200.00
12-inch Growth Media	1	ac	\$3,500.00	\$ 3,500.00	3,500.00			\$ 3,500.00
Organic Fertilizer	2	ac	\$1,600.00	\$ 3,200.00	3,200.00			\$ 3,200.00
Floodplain Seeding	2	ac	\$800.00	\$ 1,600.00	1,600.00			\$ 1,600.00
Upland Seeding	3	ac	\$550.00	\$ 1,650.00	1,650.00			\$ 1,650.00
Hydroseed/Mulch	1	ac	\$4,500.00	\$ 4,500.00	4,500.00			\$ 4,500.00
Fencing	1000	lf	\$1.50	\$ 1,500.00	1,500.00			\$ 1,500.00
			Sub-Total	\$ 84,125.00	\$ 39,500.00	\$ -	\$ 44,625.00	\$ 84,125.00
Equipment and Labor								
Excavator	240	hrs	\$125.00	\$ 30,000.00	30,000.00			\$ 30,000.00
Dozer	210	hrs	\$100.00	\$ 21,000.00			21,000.00	\$ 21,000.00
Dump Truck	220	hrs	\$100.00	\$ 22,000.00			22,000.00	\$ 22,000.00
				\$ -				\$ -

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 73,000.00	\$ 30,000.00	\$ -	\$ 43,000.00	\$ 73,000.00
Mobilization								
All Equipment	0.1	10% of const.	\$157,125.00	\$ 15,712.50			15,712.50	\$ 15,712.50
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 15,712.50	\$ -	\$ -	\$ 15,712.50	\$ 15,712.50
TOTALS				\$ 199,667.50	\$ 69,500.00	\$ -	\$ 130,167.50	\$ 199,667.50

OTHER REQUIREMENTS:

All of the columns in the budget table and the matching contribution table MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for additional clarification.

*Units = feet, hours, inches, etc. Do not use lump sum unless there is no other way to describe the costs.

Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used for calculations). **Secured funds for the entire project include DEQ AML OSMRE Grant Funds, FEMA Grant Funds secured by the County, USEPA Brownfields Grant Funds and a DNRC Planning Grant. Project efforts at this site include removal site structures, removal of a berm that has exacerbated flooding in the area, restoration of the floodplain, mine reclamation, and a future community pond project. The Meathouse Road project is considered a priority by the County because it will limit the impact of flooding, improve aquatic and riparian habitat, and incorporate public access to the river.

Reminder: Government salaries cannot be used as in-kind match

***The Review Panel suggests that design and oversight costs associated with a proposed project not exceed 15% of the total project budget. If design and oversight costs are in excess of 15%, applications must include a minimum of two competitive bids for the cost of undertaking the project. **Estimated budget does not exceed 15% in oversight cost.**

****The Review Panel recommends a maximum fencing cost of \$1.50 per foot. Additional costs may be the responsibility of the applicant and/or partners.

MATCHING CONTRIBUTIONS (do not include requested funds)

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Secured? (Y/N)
Department of Environmental Quality Abandoned Mine Lands	\$ -	\$ 141,023.00	\$ 141,023.00	Yes
	\$ -		\$ -	
	\$ -		\$ -	
	\$ -		\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ -	\$ 141,023.00	\$ 141,023.00	

Attachment Map and Images



1,000 500 0 1,000
Feet

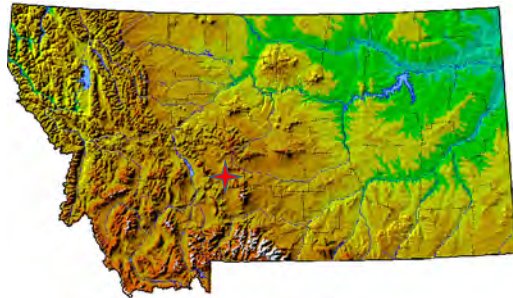


Figure 1
**Meathouse Road/
Davis Mine Site Location Map**
Roundup, Montana



Figure 1 Site location during the 2011 flood. Berm is identified by black border.



Figure 2 View of the site from north to south during 2011 flooding.

Attachment Support Letters



2300 Lake Elmo Drive
Billings, MT 59105
406-247-2963
mikeruggles@mt.gov

Future Fisheries Grant Request Support Letter

May 25th, 2018

FOR: Musselshell County,
Commissioner Bob Goffena
506 Main Street
Roundup, MT 59702

Dear Future Fisheries Grant Review Board,

I write this letter supporting funding of the "Davis Mine Reclamation and Musselshell River Restoration" proposal put forward by the commissioners of Musselshell County and Montana DEQ. It is a rare project for a county to endeavor to alleviate flood damage by re-opening the floodplain and removing existing domestic structures. The more typical response is to build higher berms and riprap banks in response to flooding. This usually leads to long term maintenance and historically inevitable reflooding of those developed areas. Instead the county has worked with FEMA, NRCS, MTDEQ, MTFWP, MTDNRC, Musselshell Water Coalition, the City of Roundup and private landowners to develop a better understanding of the 2011 flood events and a response to make themselves more resilient. Pioneer Engineering surveyed and model the flood response of dyke/berm removal. This berm can increase flood elevations by nearly 3 feet. Berm removal will reduce the frequency of flooding in the city of Roundup. As a result, this area will be less suitable for development. The county successfully obtained a FEMA grant to buy out willing landowners in the floodplain in and near Roundup. This grant requires the county to take ownership of the land and maintain it as green space. It will complement the existing city property to the east that is maintained as a nature trail and park area. Trails will be expanded into this area in the shared city county green space.

Coal mine waste was found at this site which requires cleanup. MTDEQ has a program to assist with coal mine and waste cleanup. The removal of the affected soil may leave the area with a wetland or pond complex that will add to the wildness of this site. The resulting excavation may create a pond large enough to support an urban fishery. A pond could complement the wild fishery in the Musselshell with potential use as off channel rearing ponds with expectations of flooding to release the fish i.e. sauger, ling, channel catfish. Capture of flood water by floodplains is known to return ground water to the stream later in the year which can cool the surface water during the summer.

The area will be restored to an active floodplain with initial planting of grass, brush, and tree species. Successive future floods will certainly add to this effort. Riparian areas are one of the most challenged habitats in Montana. This action will support improved fisheries conditions but also improve conditions for amphibians, reptiles, and many bird species. During floods many warm water fish species utilize flooded vegetation and off main channel habitats for cover, spawning, and rearing.

This is not the only project in the immediate area to address flood injury and floodplain restoration. A proposed FAS site upstream has already had buildings removed. MTFWP and Musselshell County have initiated discussions for management of this site. Downstream there are plans to adjust an existing berm, clean up another coal site and open the flood plain, and remove a diversion dam and align the channel in that area.

I believe this would be a great project for the board to approve and join the partnership that has been built with the goal of improving flood resiliency in Musselshell County and the City of Roundup through floodplain restoration.

Sincerely,

Mike Ruggles, Fisheries Biologist

JAMES SCHLADWEILER, President of Council
TANYA LANTER, Clerk/Treasurer
CASSANDRA MANN, Assistant Clerk
LON E. SIBLEY, Director of Public Works
DONNA MARSH, City Judge

SANDRA JONES, Mayor

City of Roundup

P.O. Box 660
Roundup, Montana 59072
Phone (406) 323-2804 • Fax (406) 323-2757

ALDERMEN

GARY TOOMBS, 1st Ward
JAMES SCHLADWEILER, 1st Ward
WOODROW WEITZEIL, 2nd Ward
RICHARD GRIFFITH, 2nd Ward
JOAN PERRELLA, 3rd Ward
DAVE PICCHIONI, 3rd Ward
DAVID LIGGETT, 4th Ward
FLOYD FISHER, 4th Ward

May 22, 2018

Michelle McGree
Montana Fish, Wildlife, and Parks
P.O. Box 200701
Helena, Montana 59620-0701


Dear Ms. McGree,

I would like to offer the support of the City of Roundup for Musselshell County's application for a Montana Fish, Wildlife, and Parks Future Fisheries Grant to restore a portion of the floodplain of the Musselshell River at Roundup, MT. The Meathouse Road Site is the focus of a multiagency reclamation and restoration project designed to restore the floodplain and in turn reduce flooding in the City of Roundup. Historic modifications of the Musselshell River, through development of railroads and concurrent development of agriculture and coal mines, have prevented the river from reaching its floodplain. These modifications resulted in the loss of more than 30 acres of floodplain at the Meathouse Road Site and exacerbated flooding in the City.

Musselshell County is working with the City of Roundup, FEMA, the Montana Abandoned Mine Lands Program, DNRC, and Musselshell Watershed Coalition partners to investigate and design options for the proposed floodplain restoration and have determined that this project, in association with others within the watershed, has an excellent opportunity for success. This project is part of a larger effort to mitigate flood-prone sites in the Roundup area. Currently, Musselshell County, with the support of DNRC Planning Grant Funding, is in the process of completing a site assessment and problem analysis investigation at the Meathouse Road Site.

Grant funds from the Future Fisheries Grant Program are essential to beneficially restore this section of the Musselshell River. The partnership in the Musselshell River watershed is focused on reclaiming mine workings and restoring flood resiliency by returning the natural functions of the river. This will undoubtedly result in improved conditions for the wild fish as well as many other riparian obligate plant and animal species. Therefore, the Roundup strongly supports this grant application. Thank you for your consideration.

Sincerely,


Roundup Mayor
Sandra Jones

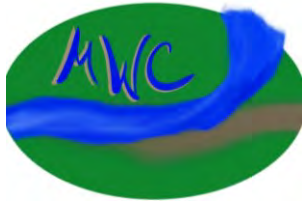
Musselshell Watershed Coalition

Board members: President Shirley Parrot, Vice-President Bill Bergin, Jr., Diane Ahlgren, Shane Moe, Lynn Rettig, Leon Hammond, Craig Dalgarno
Coordinator: Laura Nowlin

P.O. Box 118

Winnett, MT 59087

<http://musselshellwc.wix.com/musselshellwc>



May 31, 2018

Michelle McGree
Montana Fish, Wildlife, and Parks
P.O. Box 200701
Helena, Montana 59620-0701

Dear Ms. McGree,

I would like to offer the support of the Musselshell Watershed Coalition for Musselshell County's application for a Montana Fish, Wildlife, and Parks Future Fisheries Grant to restore a portion of the floodplain of the Musselshell River at Roundup, MT. The Musselshell River Watershed contains approximately 9,500 square miles. The entire area is home to approximately 9,325 people. The mission of the Musselshell Watershed Coalition is to benefit water users and the Musselshell River through basin-wide cooperative management of the Musselshell River.

The Meathouse Road Site is the focus of a multiagency reclamation and restoration project designed to restore the floodplain and in turn reduce flooding in the City of Roundup. Historic modifications of the Musselshell River, through development of railroads and concurrent development of agriculture and coal mines, have prevented the river from reaching its floodplain. These modifications resulted in the loss of more than 30 acres of floodplain at the Meathouse Road Site and exacerbated flooding in the City.

The Davis Mine Site Reclamation project was prioritized through a watershed planning effort coordinated by the MWC. The recently completed Roundup Reach Flood Mitigation Analysis recognizes the project as a priority within a stretch near the town of Roundup. Local stakeholders identified this as a significant contributor to the flood-prone area near Roundup. Recent frequent flooding has brought to the forefront the problems created when the Musselshell River cannot access its historic floodplain as well as the problems left behind from historic mining activities.

This project will support implementation of the grassroots Musselshell Watershed Plan and assist Musselshell County and Montana's Abandoned Mine Lands Program in completing the removal of coal waste at the Davis Mine Site and restoration of the Musselshell River floodplain at the Davis Mine Site to a more natural condition.

Our organization supports this effort to restore a healthy environment for the residents of Roundup and Musselshell County.

Thank you for your consideration.

Sincerely,

Laura Nowlin

Laura Nowlin, Coordinator



Lower Musselshell Conservation District

109 Railway East
Roundup, Montana 59072

May 30, 2018

Michelle McGree
Montana Fish, Wildlife, and Parks
P.O. Box 200701
Helena, Montana 59620-0701

Dear Ms. McGree,

I would like to offer the support of the Lower Musselshell Conservation District for Musselshell County's application for a Montana Fish, Wildlife, and Parks Future Fisheries Grant to restore a portion of the floodplain of the Musselshell River at Roundup, MT. The Meathouse Road Site is the focus of a multiagency reclamation and restoration project designed to restore the floodplain and in turn reduce flooding in the City of Roundup. Historic modifications of the Musselshell River, through development of railroads and concurrent development of agriculture and coal mines, have prevented the river from reaching its floodplain. These modifications resulted in the loss of more than 30 acres of floodplain at the Meathouse Road Site and exacerbated flooding in the City.

Musselshell County is working with the City of Roundup, FEMA, the Montana Abandoned Mine Lands Program, DNRC, and Musselshell Watershed Coalition partners to investigate and design options for the proposed floodplain restoration and have determined that this project, in association with others within the watershed, has an excellent opportunity for success. This project is part of a larger effort to mitigate flood-prone sites in the Roundup area. Currently, Musselshell County, with the support of DNRC Planning Grant Funding, is in the process of completing a site assessment and problem analysis investigation at the Meathouse Road Site.

Grant funds from the Future Fisheries Grant Program are essential to beneficially restore this section of the Musselshell River. The partnership in the Musselshell River watershed is focused on reclaiming mine workings and restoring flood resiliency by returning the natural functions of the river. This will undoubtedly result in improved conditions for the wild fish as well as many other riparian obligate plant and animal species. Therefore, the Lower Musselshell Conservation District strongly supports this grant application. Thank you for your consideration.

Sincerely,

Donna Pedrazzi
Lower Musselshell Conservation District Administrator

Michelle McGree
Montana Fish, Wildlife, and Parks
P.O. Box 200701
Helena, Montana 59620-0701

Dear Ms. McGree,

The Musselshell Valley Community Foundation (MVCF) would like to offer their support for Musselshell County's application for a Montana Fish, Wildlife, and Parks Future Fisheries Grant to restore a portion of the floodplain of the Musselshell River at Roundup, MT. The Meathouse Road Site is the focus of a multiagency reclamation and restoration project designed to restore the floodplain and in turn reduce flooding in the City of Roundup. Historic modifications of the Musselshell River, through development of railroads and concurrent development of agriculture and coal mines, have prevented the river from reaching its floodplain. These modifications resulted in the loss of more than 30 acres of floodplain at the Meathouse Road Site and exacerbated flooding in the City.

Musselshell County is working with the City of Roundup, FEMA, the Montana Abandoned Mine Lands Program, DNRC, and Musselshell Watershed Coalition partners to investigate and design options for the proposed floodplain restoration and have determined that this project, in association with others within the watershed, has an excellent opportunity for success. This project is part of a larger effort to mitigate flood-prone sites in the Roundup area. Currently, Musselshell County, with the support of DNRC Planning Grant Funding, is in the process of completing a site assessment and problem analysis investigation at the Meathouse Road Site.

Grant funds from the Future Fisheries Grant Program are essential to beneficially restore this section of the Musselshell River. The partnership in the Musselshell River watershed is focused on reclaiming mine workings and restoring flood resiliency by returning the natural functions of the river. This will undoubtedly result in improved conditions for the wild fish as well as many other riparian obligate plant and animal species.

As I write this support letter, the 2018 Musselshell River flooding in Roundup, including the Meathouse Road Site, will likely peak the week of May 29. While the flooding is certainly not as severe as 2011, damage and disruption again will be experienced by the community. This project is an important project piece to finally get local floodplain management right for this historically impacted reach of the Musselshell River.

Therefore, the MVCF strongly supports this grant application. Thank you for your consideration.

Sincerely,

Kelly Gebhardt
Chair, Musselshell Valley Community Foundation



May 30, 2018

Michelle McGree
Montana Fish, Wildlife, and Parks
P.O. Box 200701
Helena, Montana 59620-0701

Dear Ms. McGree,

I would like to offer the support of the Department of Environmental Quality (DEQ) for Musselshell County's application for a Montana Fish, Wildlife, and Parks Future Fisheries Grant to restore a portion of the floodplain of the Musselshell River at Roundup, MT. The Meathouse Road Site is the focus of a multiagency reclamation and restoration project designed to restore the floodplain and, in turn, reduce flooding in the City of Roundup. Historic modifications of the Musselshell River, through development of railroads and concurrent development of agriculture and coal mines, have prevented the river from reaching its floodplain. These modifications resulted in the loss of more than 30 acres of floodplain at the Meathouse Road Site and exacerbated flooding in the City.

Musselshell County is working with the City of Roundup, FEMA, the Montana Abandoned Mine Lands Program, DNRC, and Musselshell Watershed Coalition partners to investigate and design options for the proposed floodplain restoration and have determined that this project in association with others within the watershed has an excellent opportunity for success. This project is part of a larger effort to mitigate flood-prone sites in the Roundup area. Currently, Musselshell County, with the support of DNRC Planning Grant Funding, is in the process of completing a site assessment and problem analysis investigation at the Meathouse Road Site.

Grant funds from the Future Fisheries Grant Program are essential to beneficially restore this section of the Musselshell River. The collaborative group is focused on reclaiming mine workings and mitigating flooding by restoring the river to more natural conditions. This effort will improve the watershed and the quality of life of the people who live in it. Therefore, the DEQ strongly supports this grant application. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Jenny Chambers".

Jenny Chambers, Administrator
Waste Management & Remediation Division
Montana Department of Environmental Quality
jchambers@mt.gov

cc: Musselshell County Commissioners, City of Roundup, Musselshell Watershed Coalition

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION



STEVE BULLOCK, GOVERNOR

1539 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074
FAX: (406) 444-2684

PO BOX 201601
HELENA, MONTANA 59620-1601

May 25, 2018

Montana Fish, Wildlife & Parks
Fisheries Division
1420 E. Sixth Ave.
Po Box 200701
Helena MT 59620-0701

Dear Ms. McGree,

The DNRC Reclamation and Development Grants Program has supported the Meathouse Road Reclamation and Musselshell River Restoration project through a planning grant for the Davis Mine site. The planning grant included \$35,221 for site assessment and project design. The goal of the planning grant is to complete site assessment for an effective removal of the structures and waste coal followed by completion of stream restoration to return this reach of the river to more natural conditions. This grant and project are ongoing.

Since the development of railroads in the 19th Century and the concurrent development of coal mining, extensive alterations to the flow path of the Musselshell River have occurred. Development of the Davis Mine site, which is located on a meander tab in the Musselshell River, included construction of a berm. Removal of the berm and restoration of the river will allow the river to access its floodplain, and improve aquatic habitat, fisheries, and recreational access to the river.

Musselshell County has applied for additional funding through a RDGP Project Grant. Review of this application has not been completed, and no determination of funding has been made.

Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Heidi Anderson Folnagy".

Heidi Anderson Folnagy
RDG Program Manager

Attachment Project Plans

**MEATHOUSE ROAD RECLAMATION AND
MUSSELSHELL RIVER RESTORATION
MUSSELSHELL COUNTY, MONTANA DEQ
CONTRACT NO. 414027**



PREPARED FOR

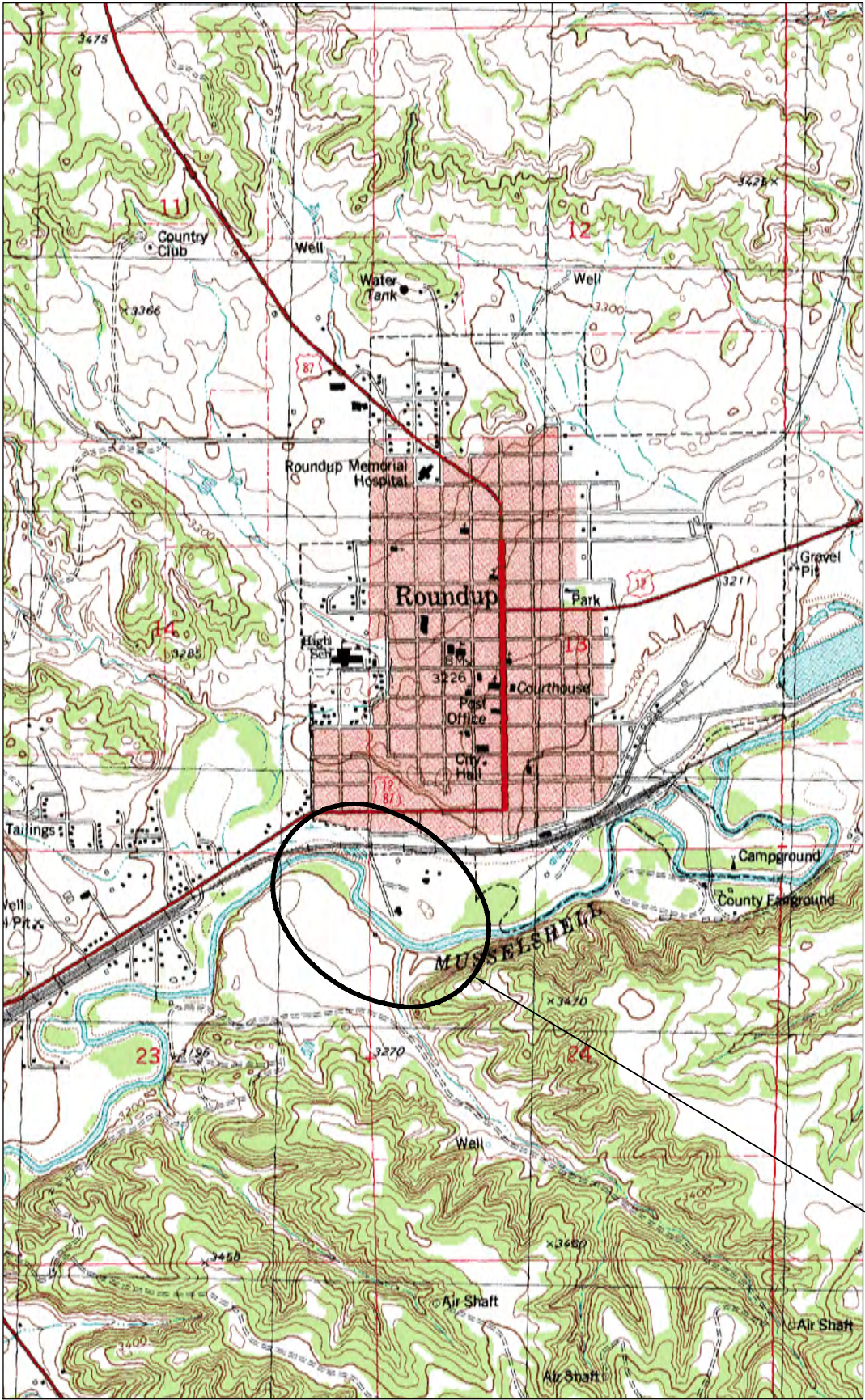
**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY/
REMEDIAL DIVISION**



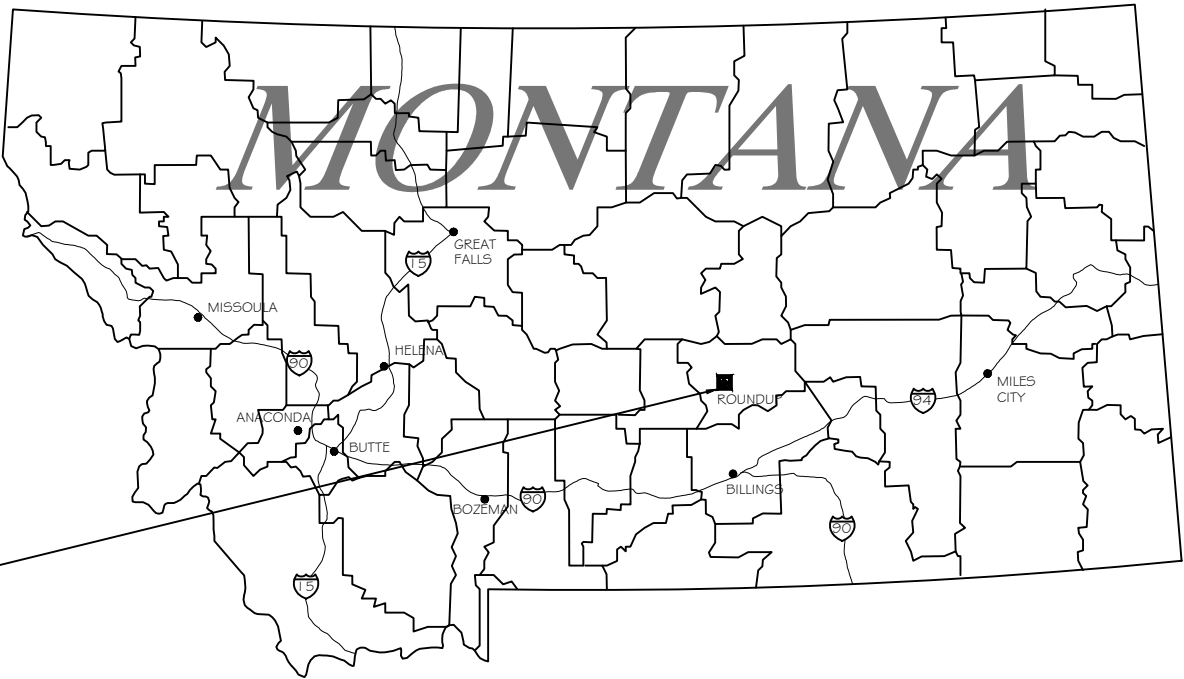
PREPARED BY

PIONEER
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-8252

MAY 7, 2018



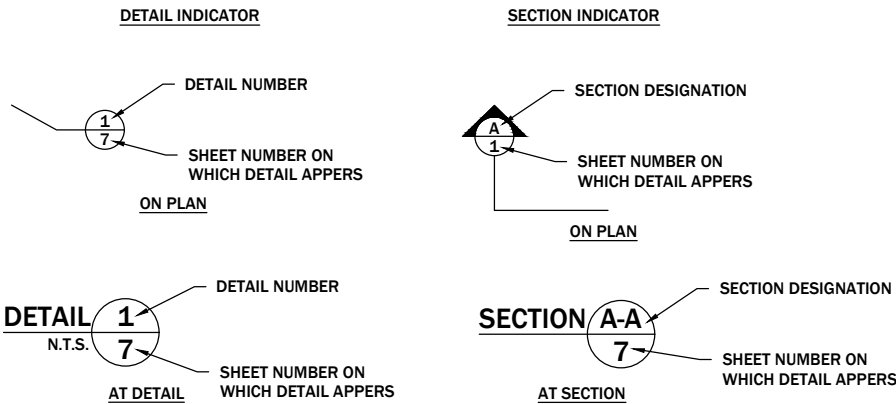
SITE VICINITY MAP



**PROJECT
LOCATION**

LEGEND

	EXISTING INDEX CONTOURS		PROPOSED INDEX CONTOURS
	EXISTING INTERMEDIATE CONTOURS		PROPOSED INTERMEDIATE CONTOURS
	EXISTING ROADS		
	EXISTING FENCE		CENTERLINE
	OVERHEAD ELECTRIC		EXCAVATION AREA
	EXISTING BUILDING		FILL AREA
	EXISTING CONCRETE		UPLAND SHRUBS TO BE DETERMINED (TBD)
	EXISTING BERM		WILLOW STAKES
	EXISTING CULVERT		WILLOW WHIPS
	EXISTING HYDRANT		COIR LOG
	EXISTING WELL		
	EXISTING MONITORING WELL		
	EXISTING POWER POLE		
	EXISTING ADIT		



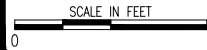
SHEET INDEX

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	LEGEND, SHEET INDEX, AND GENERAL NOTES
3	EXISTING CONDITIONS
4	PROJECT OVERVIEW
5	COIR LOG AND EXCAVATION PLAN AND PROFILE
6	COIR LOG AND EXCAVATION CROSS SECTIONS
7	FABRIC ENCAPSULATED SOIL (FES) DETAILS
8	FABRIC ENCAPSULATED SOIL (FES) DETAILS

REVISION:	DATE:	BY:	DESC:

DRAWN BY:	CR
DESIGNED BY:	CL
CHECKED BY:	
APPROVED BY:	
PROJECT NO:	
DATE:	05-02-18

DISPLAYED AS:	
COORD SYS/ZONE:	
DATUM:	
UNITS:	
SOURCE:	PIONEER



MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

LEGEND, SHEET INDEX,
AND GENERAL NOTES



SHEET
2 OF 8

GENERAL NOTES

1. NOTIFY IN WRITING ALL UTILITY COMPANIES AND UTILITY OWNERS AND LOCATE ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. THE WRITTEN NOTICE TO UTILITY OWNERS SHALL ALSO BE SUBMITTED TO OWNER. PROTECT AND REPAIR ANY DAMAGED UTILITIES AT NO ADDITIONAL EXPENSE TO OWNER. NOTIFY ONE-CALL UTILITY LOCATE AT (800) 424-5555 AT LEAST 48-HOURS PRIOR TO STARTING WORK THAT MAY IMPACT UTILITIES.

2. THE APPROXIMATE UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE BASED ON AERIAL PHOTOGRAMMETRY AND/OR RECORDS PROVIDED BY THE UTILITY OWNERS. ALL UTILITY LOCATIONS SHOWN ARE LIMITED TO THE ACCURACY OF THE LOCATION METHODS AND UTILITY OWNERS RECORDS. UTILITIES MAY HAVE BEEN RELOCATED SINCE THE DRAWINGS WERE PREPARED: UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND ACTUAL DEPTHS AND/OR HEIGHTS MAY VARY. COMPLETE ALL OTHER INQUIRIES AND/OR INVESTIGATIONS NECESSARY TO FURTHER DEFINE THE UTILITY LOCATIONS AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL EXPENSE TO OWNER. NOTIFY ONE-CALL UTILITY LOCATE AT (800) 424-5555 AT LEAST 48-HOURS PRIOR TO STARTING WORK THAT MAY IMPACT UTILITIES.

3. CONTACT UTILITY COMPANIES 48 HOURS PRIOR TO TRENCHING WITHIN 15 FEET OF ALL OVERHEAD POLES TO PROVIDE THE UTILITY COMPANY THE OPPORTUNITY TO SECURE POLES.

4. NOTIFY ENGINEER OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION AND DO NOT BACKFILL UNTIL THE TYPE, SIZE, AND LOCATION HAVE BEEN RECORDED.

5. RESPECT ALL RIGHT-OF-WAY BOUNDARIES. PROTECT BUILDINGS, WALLS, MONUMENTS, TREES AND OTHER LANDSCAPING, UTILITY POLES, AND OTHER FEATURES INSIDE AND OUTSIDE ANY RIGHT-OF-WAYS. REPAIR OR REPLACE ALL SUCH DAMAGE AT NO ADDITIONAL EXPENSE TO OWNER.
6. CONTACT UTILITY OWNER TO COORDINATE INSTALLATION OF POLE WRAPS ON UTILITY POLES WHERE REQUIRED BY UTILITY OWNER.

7. SAFETY

A: GENERAL:
CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION SITE SAFETY. ENSURE SAFE OPERATIONS AND THE SAFETY OF CONTRACTOR'S EMPLOYEES DURING THE WORK. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS. UNDER NO CIRCUMSTANCES SHALL THE INFORMATION PROVIDED BE INTERPRETED TO MEAN THAT THE ENGINEER AND/OR OWNER ARE ASSUMING RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR CONTRACTOR'S ACTIVITIES. SUCH RESPONSIBILITY SHALL NEITHER BE IMPLIED NOR INFERRED.

B: EXCAVATION:
CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE TEMPORARY EXCAVATIONS AND SHALL SHORE, SLOPE, OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF THE EXCAVATION SIDES AND BOTTOM. FOR ALL EXCAVATIONS COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS PROVIDED AT 29 CFR PART 1926. IN NO CASE SHALL SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTH EXCEED THOSE SPECIFIED IN APPLICABLE REGULATIONS.

8. REPLACE OR RESET ALL EXISTING FEATURES REMOVED OR DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITION, AND AS APPROVED BY ENGINEER, INCLUDING BUT NOT LIMITED TO, SIGNS, MAILBOXES, ENTRANCE STRUCTURES, DRAINAGE DITCHES, APPROACHES, DELINEATORS, GRAVEL SURFACES, CONCRETE STRUCTURES INCLUDING CURBS AND SIDEWALKS, ASPHALT PAVEMENT, AND FENCES. VERIFY THE EXTENT OF THIS WORK PRIOR TO BIDDING, INCLUDE THE COST OF THIS WORK IN THE BID PRICES FOR THE WORK, AND COMPLETE THIS WORK AT NO ADDITIONAL COST TO THE OWNER.
9. REMOVE FENCES TO FACILITATE CONSTRUCTION ONLY AFTER RECEIVING PERMISSION FROM ENGINEER. REINSTALL REMOVED FENCES TO A CONDITION THAT IS EQUAL TO OR BETTER THAN THE ORIGINAL.

10. OBTAIN WATER REQUIRED TO COMPLETE THE WORK FROM SILVER BOW CREEK AND ACQUIRE ALL REQUIRED PERMITS TO OBTAIN THE WATER.

11. RESET ALL DISTURBED SURVEY MONUMENTS OR MARKERS, INCLUDING BUT NOT LIMITED TO, PROPERTY CORNERS, SECTION CORNERS, HIGHWAY MONUMENTS, PROPERTY PINS, OR OTHER MDT HIGHWAY CONTROL. ALL SUCH SURVEY MONUMENTS SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MONTANA AT CONTRACTOR'S EXPENSE. THESE ITEMS ARE NOT NECESSARILY SHOWN ON THE DRAWINGS.

12. OBTAIN ALL PERMITS REQUIRED TO COMPLETE THE WORK.

13. MAINTAIN ALL EXISTING DRAINAGE PATTERNS UNLESS OTHERWISE SHOWN ON THE DRAWINGS. TEMPORARY CULVERTS MAY BE NEEDED IN SOME LOCATIONS TO COMPLETE THE WORK AND SHALL BE REMOVED WHEN THE WORK IS COMPLETE AT NO ADDITIONAL EXPENSE TO OWNER.

14. COORDINATE WITH, AND RECEIVE APPROVAL FROM, THE RAILROAD OWNER(S) FOR ALL WORK WITHIN THE RAILROAD RIGHT-OF-WAY AND RAILROAD CROSSING CONSTRUCTION, IF REQUIRED. DO NOT DAMAGE RAILROAD IN ANY WAY DURING IMPLEMENTATION OF THE WORK.

15. INSTALL PERIMETER SIGNAGE AND RAILROAD WARNING SIGNS AS REQUIRED BY THE SPECIAL PROVISIONS AND AS SHOWN ON THE DRAWINGS.

16. ACCESS THE SITE ONLY AT THE LOCATIONS SHOWN ON THE DRAWINGS AND RESTRICT TRAFFIC TO THE DESIGNATED ACCESS ROADS, TRAILS, AND TURNAROUNDS.

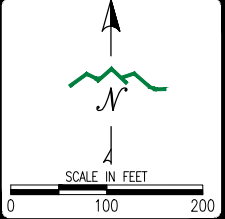
17. PROVIDE A WEED DECONTAMINATION STATION AT EACH SITE ACCESS POINT.



REVISION:	BY:	DESC:
DATE:		

DRAWN BY:	CR
DESIGNED BY:	CL
CHECKED BY:	
APPROVED BY:	
PROJECT NO:	
DATE:	05-07-18

DISPLAYED AS:	
COORD SYS/ZONE:	MSP
DATUM:	NAD 83
UNITS:	INT. FEET
SOURCE:	PIONEER



MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

EXISTING
CONDITIONS

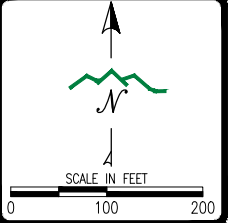




REVISION:		
DATE	BY	DESC

DRAWN BY: CR
DESIGNED BY: CL
CHECKED BY:
APPROVED BY:
PROJECT NO:
DATE: 05-07-18

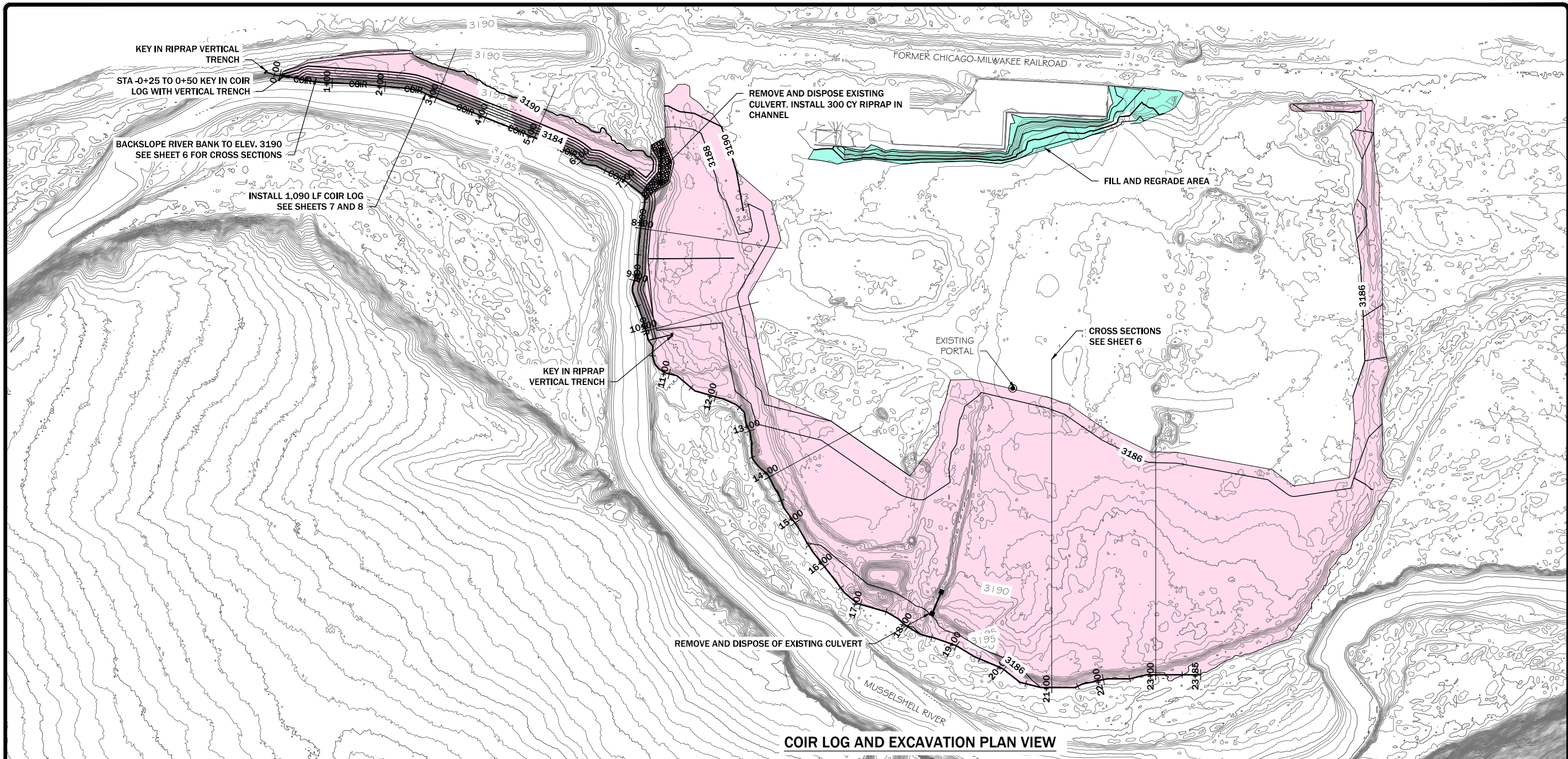
DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: INT. FEET
SOURCE: PIONEER



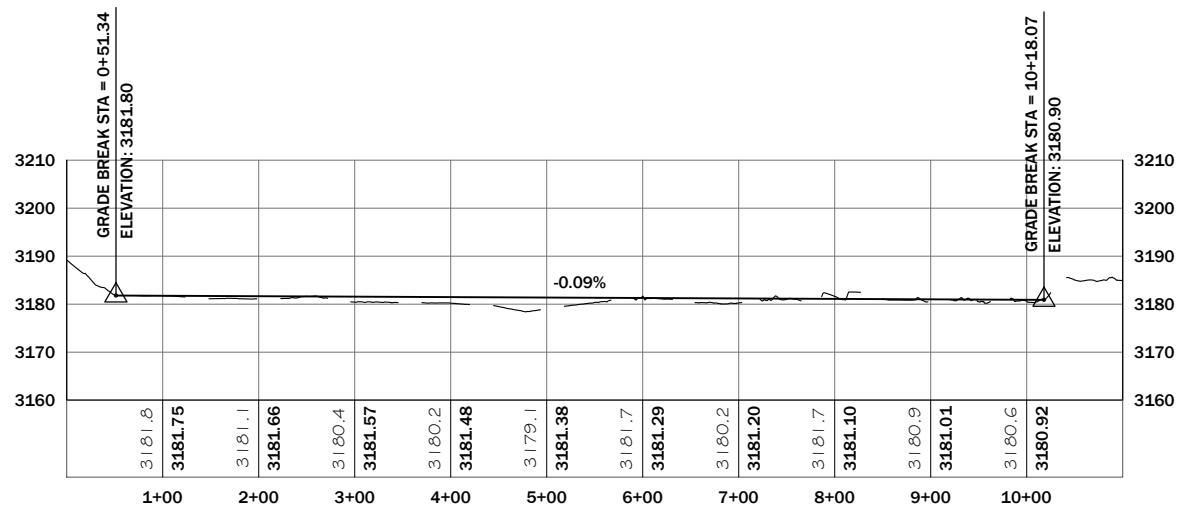
MEATHOUSE ROAD
RECLAMATION AND
MUSSHELL RIVER
RESTORATION

PROJECT
OVERVIEW

 **PIONEER**
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-8252



COIR LOG AND EXCAVATION PLAN VIEW



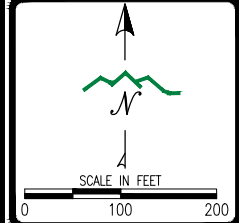
COIR LOG PROFILE
VERT. EX. = 5X

DRAFT
NOT FOR CONSTRUCTION

REVISION:	DATE:	BY:	DESC:

DRAWN BY:	CR
DESIGNED BY:	CL
CHECKED BY:	
APPROVED BY:	
PROJECT NO:	
DATE:	05-07-18

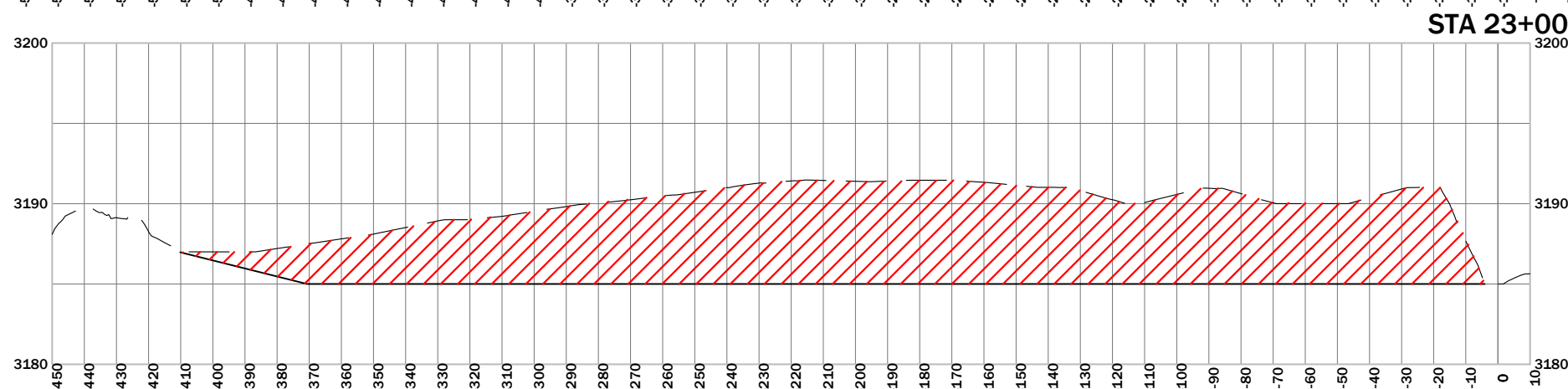
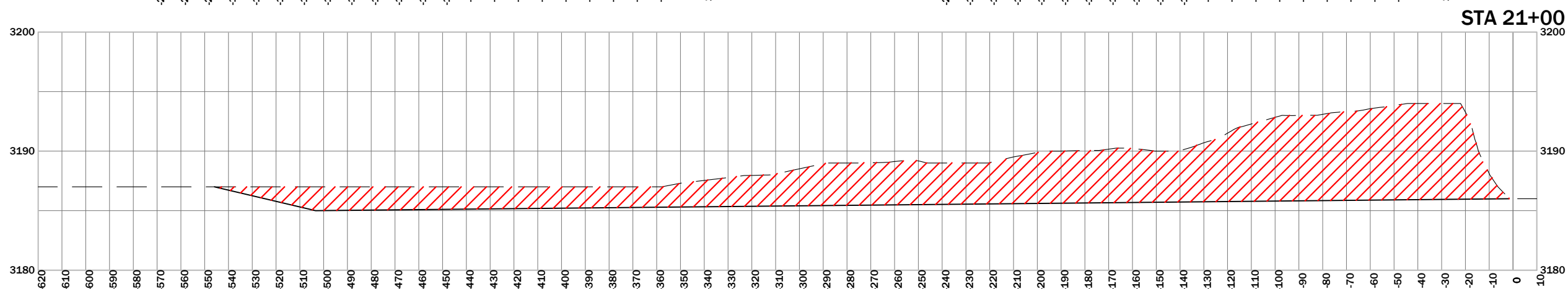
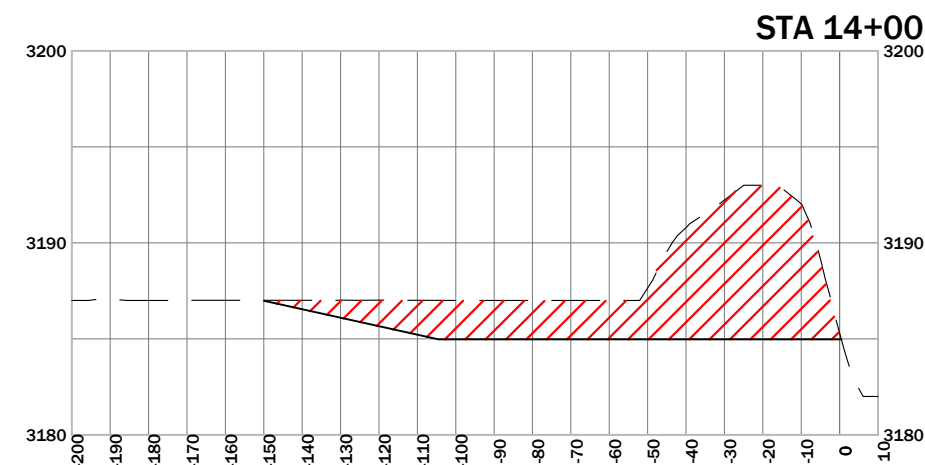
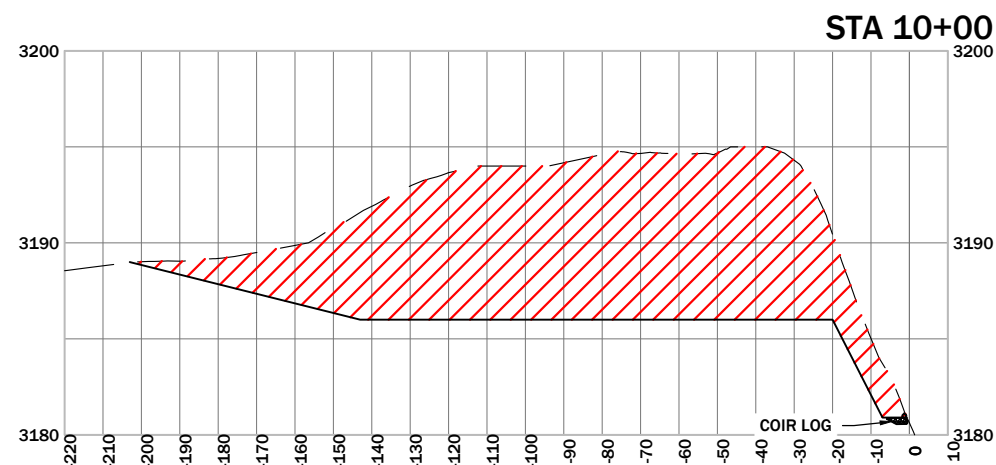
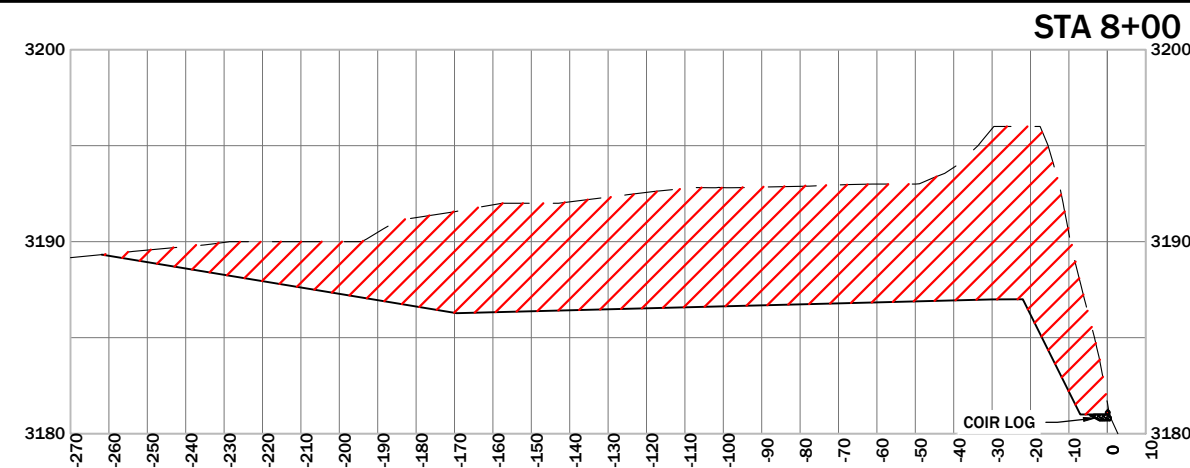
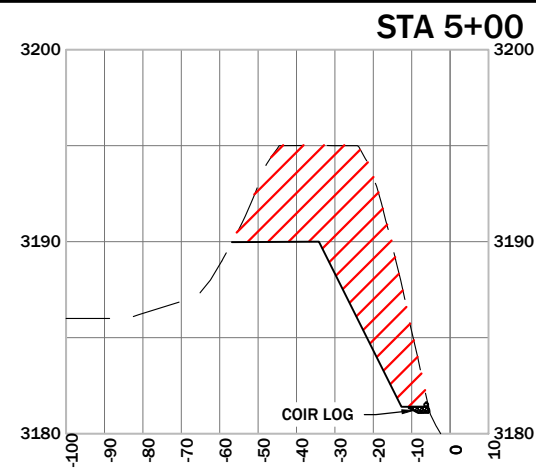
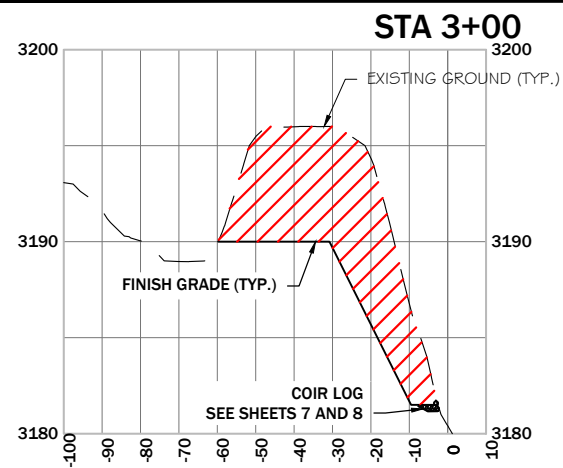
DISPLAYED AS:	
COORD SYS/ZONE:	MSP
DATUM:	NAD 83
UNITS:	INT. FEET
SOURCE:	PIONEER



MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

COIR LOG
AND EXCAVATION
PLAN AND PROFILE

PIONEER
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-8252

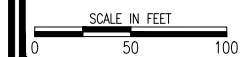


EXCAVATION CROSS SECTIONS
VERT. EX. = 5X

REVISION:	DATE:	BY:	DESC:

DRAWN BY: CR
DESIGNED BY: CL
CHECKED BY: _____
APPROVED BY: _____
PROJECT NO: _____
DATE: 05-07-18

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: INT. FEET
SOURCE: PIONEER



MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

COIR LOG
AND EXCAVATION
CROSS SECTIONS

PIONEER
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-8252

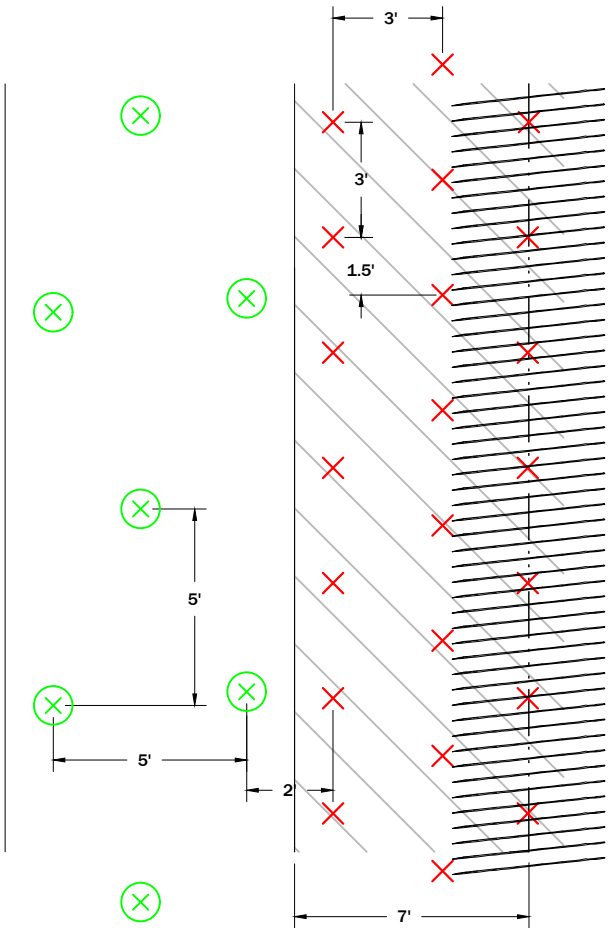
DRAFT
NOT FOR CONSTRUCTION

- ⊗

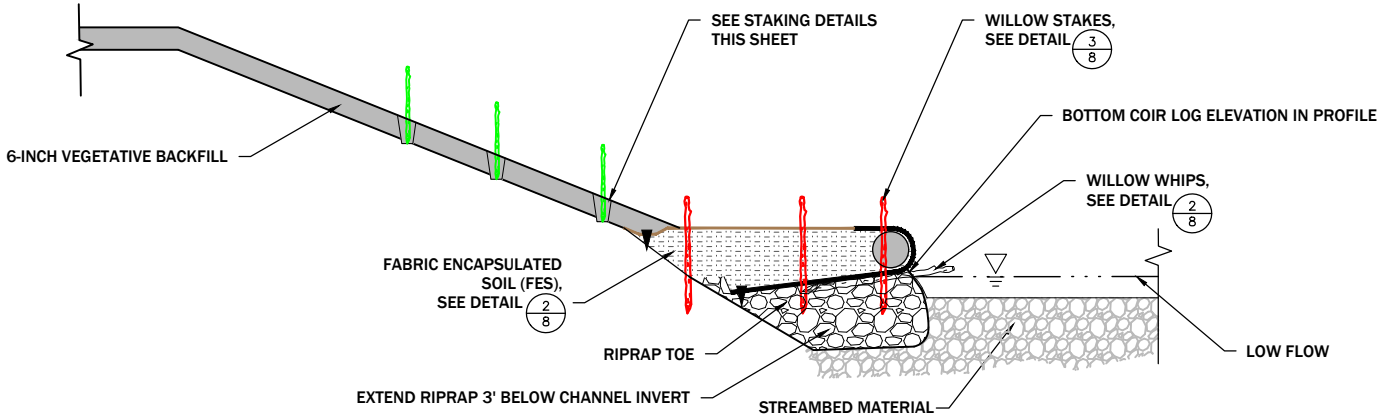
UPLAND SHRUBS
- ×

WILLOW STAKES CUTTING

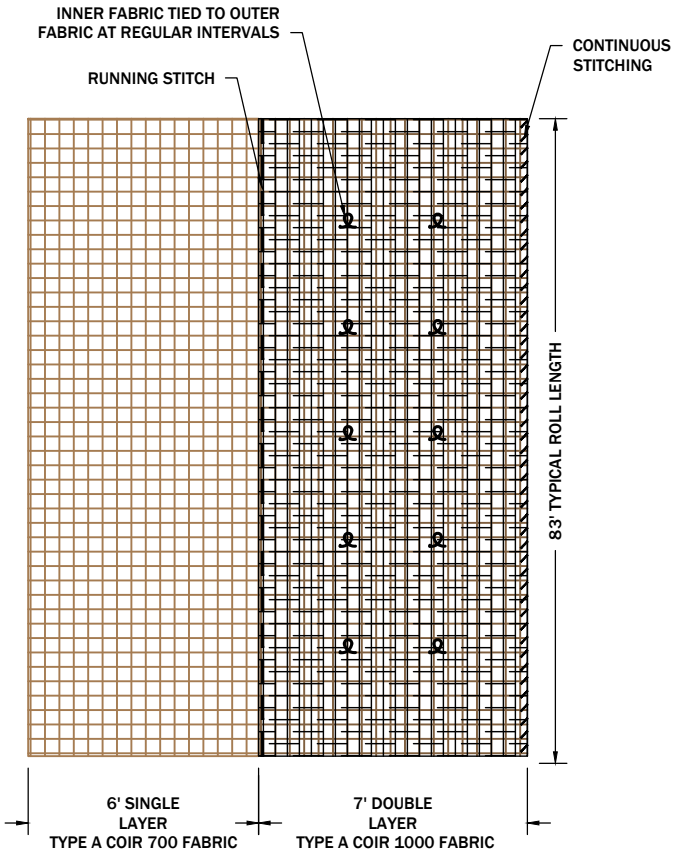
- UPLAND SHRUB NOTES:
1. PLANT LOCATIONS, DENSITY AND SPECIES MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.
 2. REMOVE ALL DEBRIS TO EXPOSE THE BARE SOIL OVER A 8"-10" DIAMETER AREA.
 3. IF LIVE VEGETATION ROOTS ARE PRESENT, REMOVE TO A DEPTH OF 2" BELOW THE SOIL SURFACE OVER AN AREA OF 18" TO 24" IN DIAMETER.
 4. THE PLANTING HOLE SHALL BE DUG APPROXIMATELY 50% WIDER AND 25% DEEPER THAN THE CONTAINER. THE SOIL IN THE BOTTOM SHALL BE LOOSENEED TO A DEPTH OF 3". DO NOT WEDGE OR JAM SIDES OF HOLES.
 5. PLANTS SHALL BE PLACED IN THE GROUND SO THAT THE ROOTS ARE NOT TWISTED, TANGLED, COMPACTED TOGETHER OR TURNED UPWARD.
 6. FOREIGN MATERIAL, INCLUDING ROCK, SHALL BE KEPT OUT OF HOLES.
 7. SOIL SHALL BE FILLED IN AND FIRMED PROGRESSIVELY, SO NO LOOSE SOIL OR AIR POCKETS REMAIN.
 8. NO PORTION OF THE ROOTS SHALL BE EXPOSED NOR ANY BRANCHES COVERED WITH SOIL.



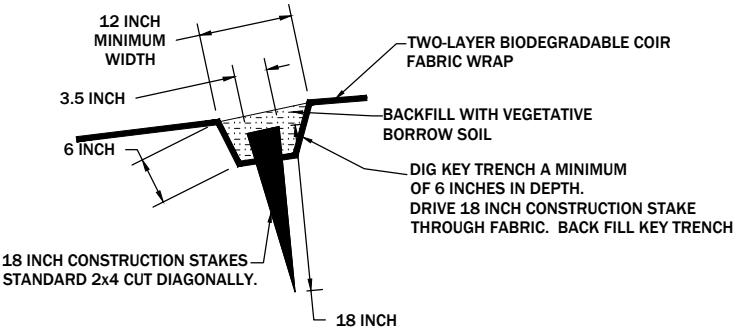
RIVER BANK SECTION PLAN VIEW



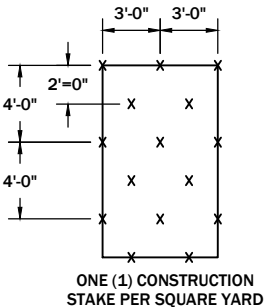
RIVER BANK TREATMENT DETAIL
N.T.S. 1/7



COIR 1000 CUSTOM FABRIC
DETAIL PLAN VIEW
N.T.S. 2/7



TWO-LAYER BIODEGRADABLE
COIR FABRIC ANCHOR DETAIL
N.T.S. 3/7



TWO-LAYER BIODEGRADABLE
COIR FABRIC SURFACE STAKING DETAIL
N.T.S. 4/9

REVISION:	DATE:	BY:	DESC:

DRAWN BY:	CR
DESIGNED BY:	CL
CHECKED BY:	
APPROVED BY:	
PROJECT NO:	
DATE:	05-07-18

DISPLAYED AS:	
COORD SYS/ZONE:	MSP
DATUM:	NAD 83
UNITS:	INT. FEET
SOURCE:	PIONEER

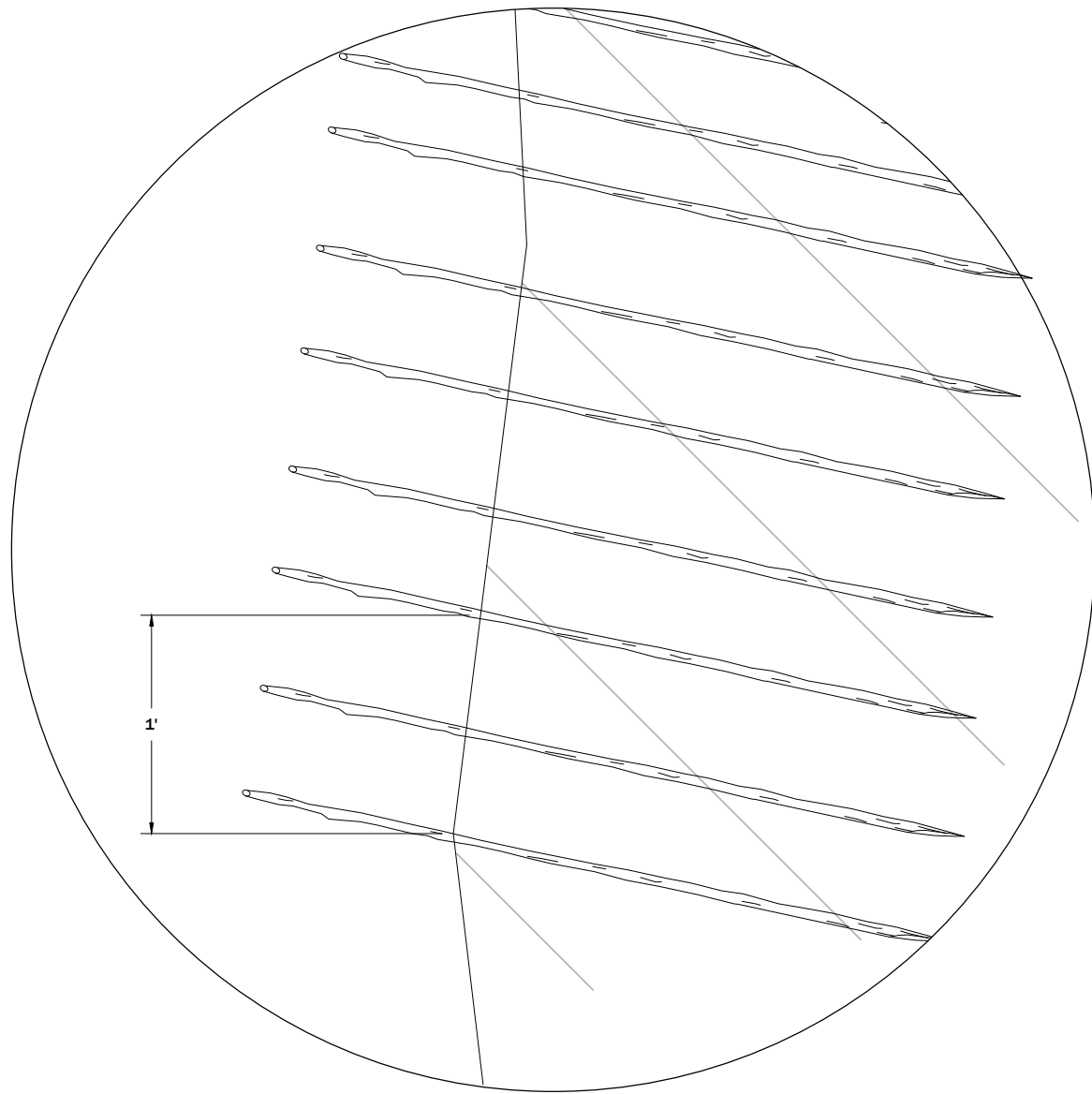
SCALE IN FEET
0

MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

FABRIC
EXCAPSULATED
SOIL (FES)
DETAILS

PIONEER
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-8252

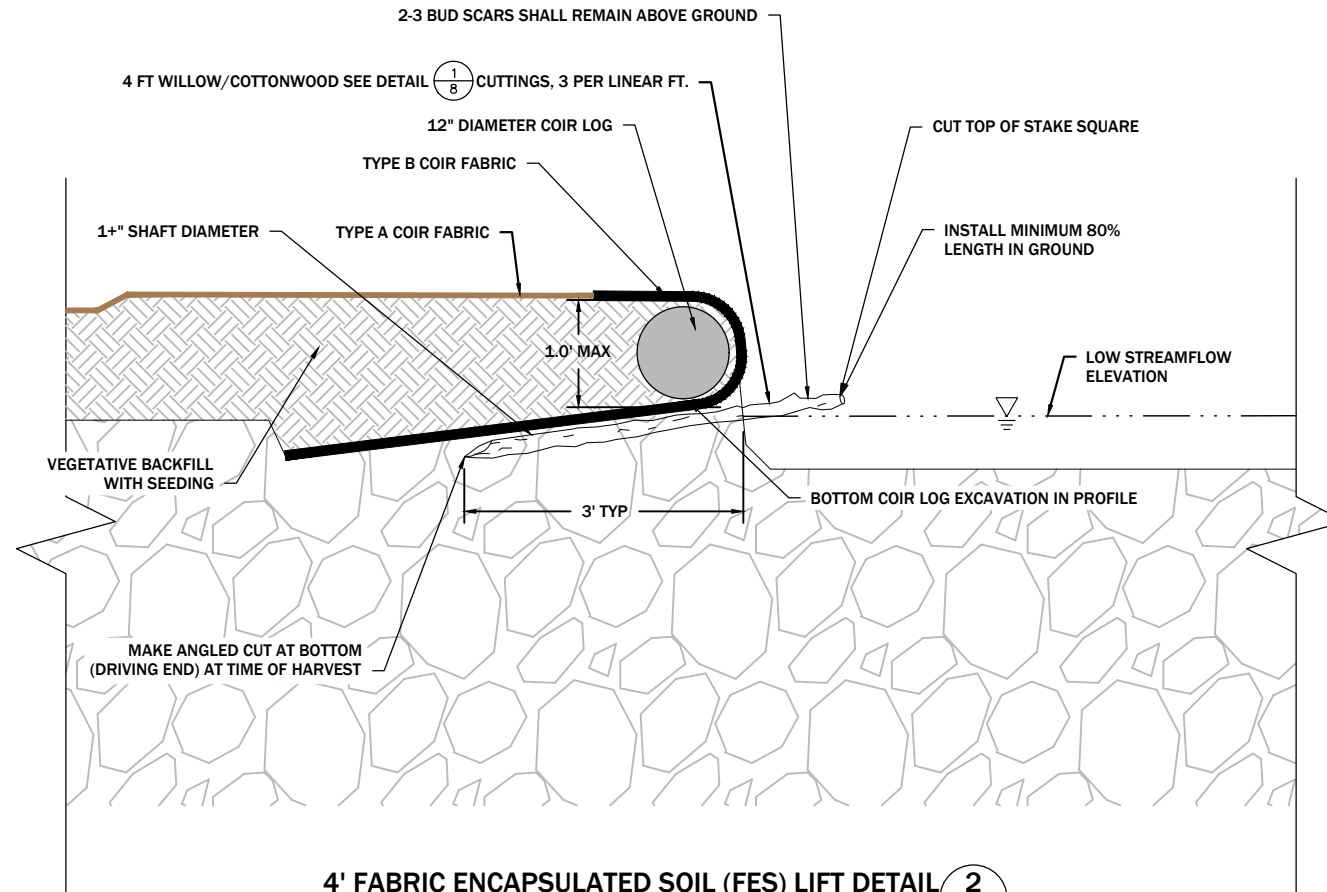
SHEET
7 OF 8



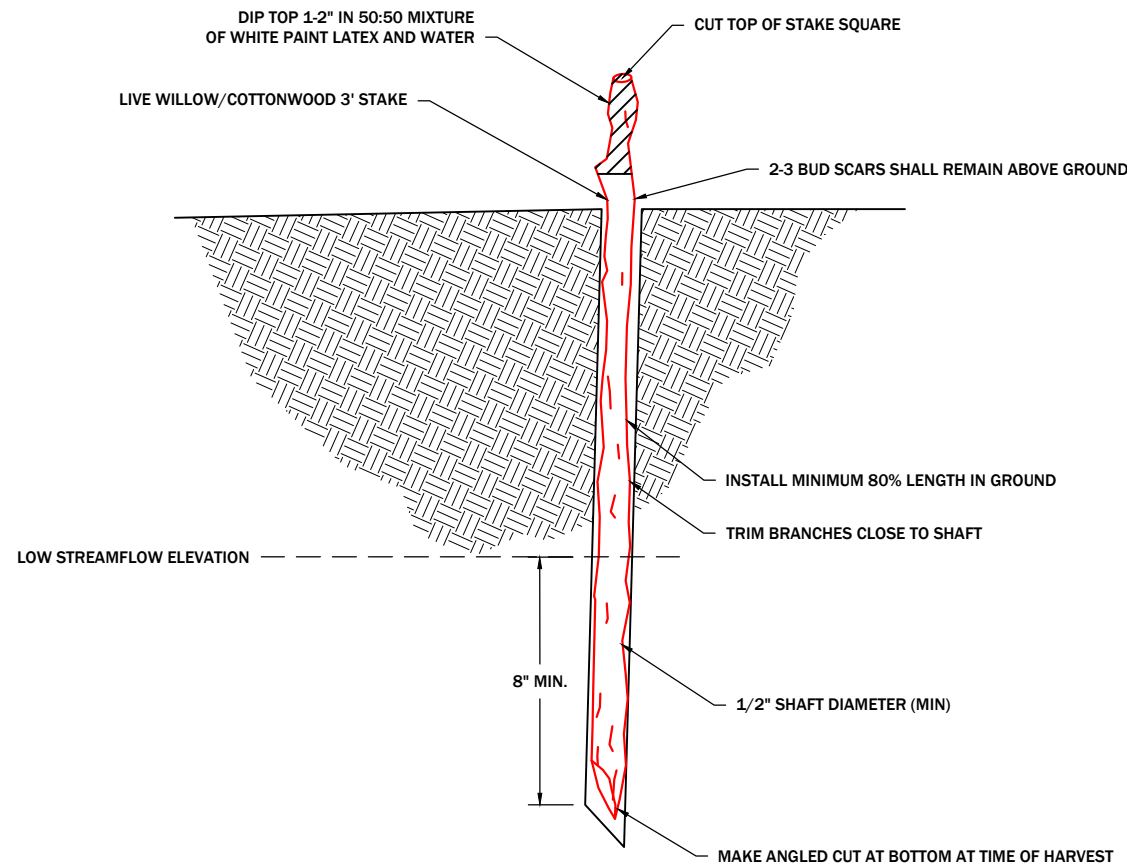
4' WILLOW WHIPS/COTTONWOOD PLAN VIEW 1
8
N.T.S.

NOTES:

1. ALL WILLOW AND COTTONWOOD CUTTINGS SHALL BE HARVESTED LOCALLY AND ADAPTED TO SITE CONDITIONS.
2. ALL CUTTINGS SHALL BE SUBMERGED IN CLEAN WATER FOR 3-5 DAYS PRIOR TO INSTALLATION.
3. ALL CUTTINGS SHALL BE TAKEN FROM HEALTHY, LIVING STEMS OF MATURE PLANTS. ADAPTED TO THE CLIMATE OF THE PROJECT AREA.
4. INSTALL CUTTINGS BY MEANS AS NECESSARY TO PREVENT SPLITTING OR DAMAGING THE CUTTING.
5. BASAL ENDS SHALL EXTEND A MINIMUM OF 8 INCHES INTO THE PERMANENT WATER TABLE, AS DIRECTED BY ENGINEER.
6. PROTRUDING STEMS SHALL BE ORIENTED DOWNSTREAM, WITH 3 TO 4 NODES VISIBLE, AND NO MORE THAN 1/2 THE TOTAL LENGTH ABOVEGROUND.
7. MUSHROOM TOPS, FROM INSTALLATION, MUST BE CLIPPED AND COATED WITH LATEX PAINT.



4' FABRIC ENCAPSULATED SOIL (FES) LIFT DETAIL 2
8
N.T.S.



3' WILLOW STAKES - CUTTING HARVESTING AND PLANTING 3
8
N.T.S.

REVISION:	DATE:	BY:	DESC:

DRAWN BY: CR
DESIGNED BY: CL
CHECKED BY:
APPROVED BY:
PROJECT NO:
DATE: 05-07-18

DISPLAYED AS:
COORD SYS / ZONE: MSP
DATUM: NAD 83
UNITS: INT. FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MEATHOUSE ROAD
RECLAMATION AND
MUSSELSHELL RIVER
RESTORATION

FABRIC
ENCAPSULATED
SOIL (FES)
DETAILS

PIONEER
TECHNICAL SERVICES, INC.
201 E. BROADWAY, SUITE C
HELENA, MT 59601
(406) 457-5093

SHEET
8 OF 8